

Claims

[c1] What is claimed is:

1. A backlight unit comprising:

a light source generator positioned in a backside of a display panel for providing light beams to the display panel;

a diffuser positioned between the light source generator and the display panel for uniformly scattering light beams from the light source generator to the display panel; and

a housing enclosing the light source generator and connecting to the diffuser for reflecting the light beams to the diffuser, the housing further comprising a heat pipe for being a heat transfer interface between the back light unit and an external environment.

[c2] 2. The back light unit of claim 1, wherein the heat pipe is composed of metal materials.

[c3] 3. The back light unit of claim 1, wherein the material of the heat pipe is selected from copper, alumina, tin, or an alloy of any of the above metal materials.

[c4] 4. The back light unit of claim 1, wherein the heat pipe is

a solid heat-conductive pipe.

- [c5] 5. The back light unit of claim 1, wherein the heat pipe is a hollow heat-conductive pipe, and an inner portion of the hollow heat-conductive pipe contains a cooling liquid.
- [c6] 6. The back light unit of claim 1, wherein the heat pipe is connected to the external environment through a radiator piece for transferring heat to the external environment effectively.
- [c7] 7. The back light unit of claim 1, wherein the heat pipe is positioned at a contact point of the diffuser and an upside of the housing for avoiding affecting paths of the light beams.
- [c8] 8. The back light unit of claim 1, wherein the light source generator comprises a fluorescent tube.
- [c9] 9. The back light unit of claim 8, wherein the heat pipe is positioned directly below the fluorescent tube, and a surface of the heat pipe contains a radiative reflective layer for reflecting light beams from the fluorescent tube.
- [c10] 10. The back light unit of claim 9, wherein the surface of the heat pipe is an arc surface for reducing a rate of light

beams emitted from the fluorescent tube being reflected back to the fluorescent tube.

[c11] 11. The back light unit of claim 1, wherein a contact surface of the heat pipe and the external environment is a rough surface, the rough surface comprising a plurality of sharp teeth so that a radiating area is increased.

[c12] 12. The back light unit of claim 1 further comprising a diffusion sheet or a prism positioned on the diffuser for increasing the utility of the light resource generator.